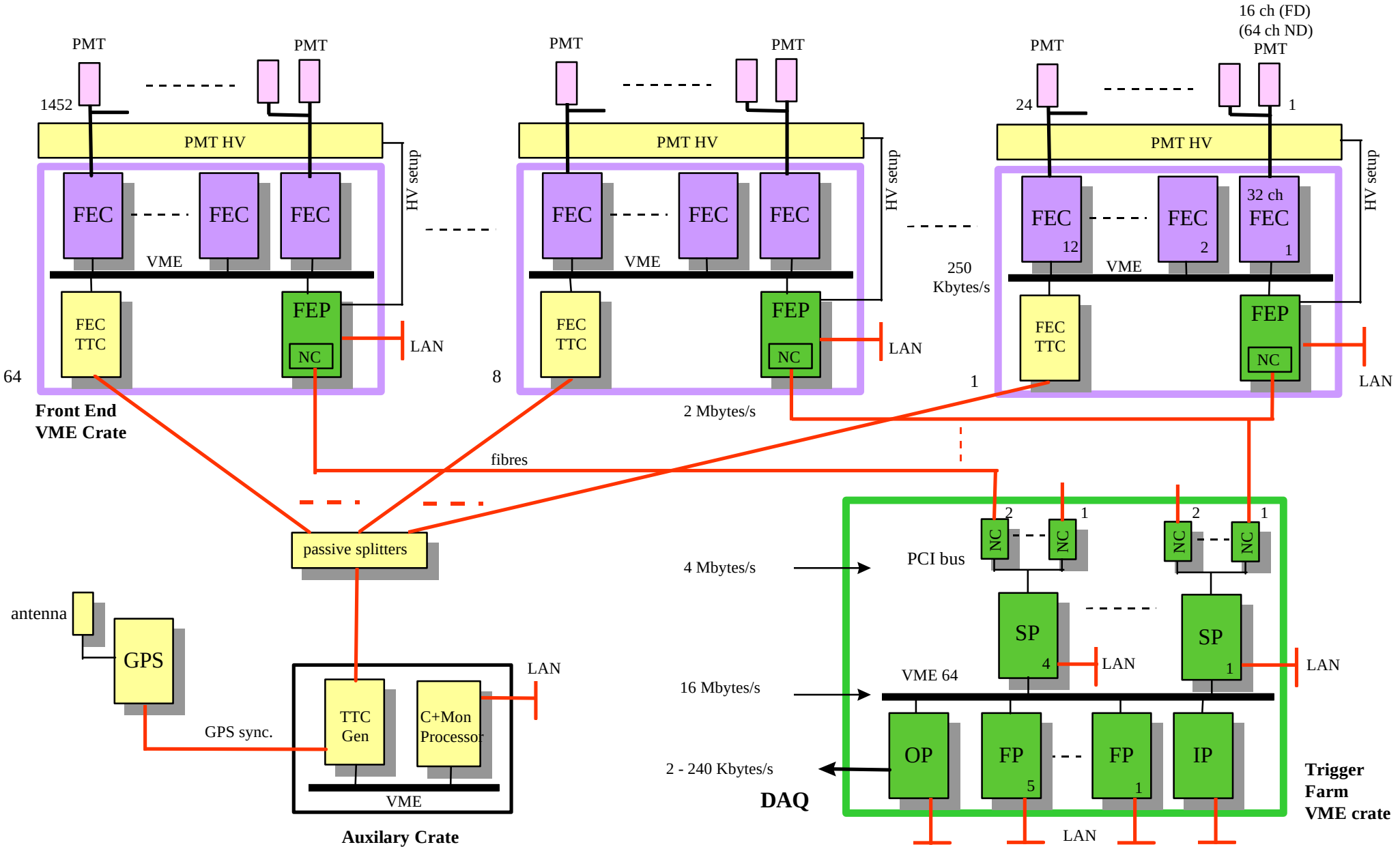
MINOS readout



1- Front End Crates:

Front End Cards (FEC) digitise 32 PMT signals above a threshold and record their absolute time.

Front End Processor (FEP) collects 12 FEC data and sends them to the Trigger Farm through fast Network Cards.

Front End Trigger Timing Controller (FETTC) distribute timing and fast controls to the FECs.

2- Network Connections:

Network Cards interconnect the front end to the trigger farm transparently through optical fibres.

3- Trigger Farm:

Sorter Processors (SP) receive data from (8) front end crates and pre-sort theminto overlapping time blocks.

Input Processor (IP) controls the flow of data between SPs and Farm Processors.

Farm Processors (FP) apply trigger algorithms on pre sorted data to select interesting events.

Output Processor (OP) collects data from FPs and sends them to DAQ.

4- High Voltage supplies:

Supply high voltage to PMT bases through slow (RS232) control of Front End Processor.

4- Timing, Control + Monitor Crate:

Control and monitor processor (CMON) does slow control and monitoring of all units in the readout system through the LAN.

TTC Gen is the timing master card synchronised with the GPS clock

5- GPS Receiver:

Synchronises a fast clock used by TTC with GPS satellite absolute time received on the surface.

6- Timing Distribution:

Passive Splitters distribute fibre optic timing signals to the front end crates.

MINOS readout (II)